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The Earl of Enniskillen said he was not aware whether Roman coins had been often found in this country ; but he might mention that a friend of his own, Captain Graves, had shown him a considerable number of them which were discovered at the Giant's Causeway, in the County of Antrim.

Dr. Petrie had seen several hundred Roman coins in the possession of a gentleman who had resided in that county ; and he had also seen many Carthaginian coins which had been found in Ireland.

The President—That is a remarkable fact, and one which ought to be placed on record.

A silver signet seal of the fourteenth century, with an Agnus Dei in cornelian, and the legend "Ecce Agnus Dei;" presented by Catterson Smith, Esq.

A silver bell, found in the County of Roscommon ; presented by R. K. Gardiner, Esq.

Two vessels made of pewter, and supposed to be a ciborium and a chrismatorium, found in a lake, near the river Brosna, King's County ; presented by Sir William Betham.

A large stone celt, a peculiarly fine specimen, found in Monmunny bog, parish of Ahavea, County Fermanagh ; presented by Rev. G. S. Smith, D. D.

An iron collar and chain, a bronze pin, an iron spear, and a human skull, all found near Strokestown, County Roscommon, were presented by Dennis H. Kelly, Esq., on the part of Richard Kelly, Esq.

The President addressed the Academy, on presenting the Cunningham Medal to the Rev. John H. Jellett, as follows :

GENTLEMEN,—Before we proceed to our ordinary business, it is my duty to present the Cunningham Medal to the gentleman to whom the Academy has awarded this, its highest gift of honour. Probably

you are all of you aware that we owe our power of recognising distinguished talent to the enlightened bounty of one of our earliest benefactors, who left to the Academy a sum of money, signifying his wish that its interest should be applied to the advancement of physical and zoological science, but leaving us a wide permission to extend it to any of the objects connected with our pursuits. For a long time it was supposed that we were restricted to the necessity of awarding this Medal annually to the best of the essays that might be presented to the Academy on a question proposed by it; a course open to the disadvantage of making it a test of comparative rather than intrinsic excellence, and of placing it in a lower degree of estimation than that which ought to attach to the decisions of a Society like this. Impressed by a conviction of this kind, and by other equivalent motives, the Academy came, a few years since, to the—as I think—wise resolution of construing the intention of the donor in a far wider and more liberal manner; not restricting it, as before, to one communication, or one year, but spreading its limits still more widely, so as to include even communications which were not published in our Transactions. In fact, if a man brings light into any dark recess of the intellectual world, we are disposed to honour him, even though he has not thought fit to name us its dispensers. We acted on this principle in its fullest extent when, on a former occasion, we conferred this Medal on Mr. O'Donovan for works not given by us to the world, and one of which could not have been published in its Transactions; but I believe we acted both well and wisely on that occasion, for that gentleman has, by his works, afforded to all who take an interest in the study of the ancient language, history, and antiquities of our island, aid such as none other could have afforded; and, in fact, in this particular department of literature, he shines out conspicuously among his predecessors. At the same time, it must ever be borne in mind, that this case is an extreme one; and, although the Council acted wisely, and in accordance with the legal construction of Mr. Cunningham's bequest, and, as I think, in full accordance with its spirit and his intention, still I need not point out to you that such a case must always be regarded as exceptional, and must never be established as a precedent, except on grounds which are able to meet the fullest examination, and

stand triumphant when they pass through the ordeal of public opinion. These grounds, I feel bound to say, exist very forcibly in the present instance. I have not yet seen the work which the Council has this year recommended to the Academy as deserving of this honour ; but I know, and have satisfied myself by the inquiries I have made of one well acquainted with this work, and one than whom there is no person more competent to give a weighty opinion—I have, I say, satisfied myself, and, if I named my authority, you would all of you, I think, be equally satisfied, that in this instance also, the Academy will do honour to itself by honouring the author of this valuable work. On a subject like that of which he treats—the Calculus of Variations—parts of which have, for a century and a half, employed the noblest mathematical intellects in the world, it is not to be supposed that any one individual, however highly gifted he may be, can add much to the existing stock of our knowledge ; yet, even in that respect, this work contains improvements of previously existing methods and other advantages, which, if their author had given them to us in a separate manner, would themselves have formed no ordinary title to fame. But this would have been a very contracted mode of considering the question. A far greater service has been rendered by the manner in which this task has been executed, to the advancement of geometry, than could possibly have been done by the author, if he had had in view merely the extension of his fame in this branch of high analysis. By devoting himself to a task far less attractive, and less remunerative to the exertions bestowed upon it than many other pursuits, and by descending from the more desirable position of an inventor to the humbler but more useful one of enabling others to place themselves on a level with himself, by compiling, for their use, an excellent elementary treatise, he has conferred on his species a benefit of the highest order ; and, for this reason, therefore, as a reward for a work admirably performed, and calculated to be eminently useful, but as little likely to be given to the world as it was desirable that it should be so,—I fully concur in the adjudication of the Council, and I am sure, you, gentlemen, will agree with me. Therefore, Mr. Jellett (turning to that gentleman), I present you with this Medal, and I may observe that I have an added pleasure in presenting it, because I had the good

fortune to be present at the examination which raised you to the position you now hold in the University, and because I then ventured to predict that you were one for whom a bright future was in store. I now, with pleasure, see you realize a portion of that hope on the present occasion, and most sincerely do I trust that this is only the harbinger of more extensive and brighter triumphs yet to come.

Professor Jellett read a communication from Joseph Patton, Esq., Professor of Mathematics and Natural Philosophy in Elphinstone College, Bombay, on Hygrometry, and Dalton's Theory of Mixed Gases.

The object of the author in this paper is to controvert the ordinary theory that the particles of different gases have no mutual action. Commencing with the case of aqueous vapour suspended in the atmosphere, he adduces several considerations to show that the known tension of vapour at the surface of the earth could not be accounted for on the supposition that vapour is only compressed by vapour.

Thus, for example, the difference between the average elastic force of vapour at Bombay and Mahabaleshwar is equivalent to $\cdot 276$ inch of mercury. The height of the latter place above Bombay is about 4500 feet, consequently this difference in the elastic force ought to be produced by the vapour contained in a column of air 4500 feet high. But even if we suppose that through the entire extent of this column the dew-point is 85° , the same as at the base, a supposition which would evidently greatly exaggerate the amount of vapour, Professor Patton shows that the pressure of such a column of vapour would give, for the difference between the tensions at the two places, but $\cdot 114$ inch of mercury, not half the actual difference.

Similar conclusions are deduced from the observations of Humboldt, which extend to an altitude of nearly 20,000 feet. From these observations Professor Patton reasons as follows : Taking the dew-point, as observed by Humboldt, at the se-